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## Small Public Construction Projects (SPCPs): Obstacles in the 21<sup>st</sup> Century from the Perspective of Project Managers

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### Abstract

Social changes in the context of public service sectors, in particular construction project management, are increasingly competitive, mainly in meeting the expectations of the various stakeholders in the 21<sup>st</sup> century. The country's equilibrium and well-being are based on people's recognition of well-planned and efficient project management. It can be assessed through each of the Government's development budget announcements focusing on great initiatives for target groups. In the context of managing small public construction projects (SPCPs), project manager is an influential determinant of multi-stakeholder satisfaction. Hence, this study aims to identify the obstacles faced by project managers in the perspective of handling small scale projects in Malaysia grounded on previous studies through content analysis techniques. Based on the analysis, three main obstacles can be addressed in the context of project manager's perspective, which are stakeholder expectations, project uncertainty and competency/soft skills sustainability as a basis for future research to ensure that country social development indicators are achieved.

**Keywords:** Project Manager, Small Public Project, Project Stakeholders, Project Management Sustainability, Content Analysis.

### Introduction

In the 21<sup>st</sup> century, project management is highly complex, dynamic and requires constant adaptation to the environment to achieve its objective effectiveness. In this context, Project Management Institute (2017) defines project management as the application of knowledge, skills, tools and techniques to meet a project's goals. Today, as a result of Information Communication Technology (ICT), the emergence of new technologies has generated an increasingly competitive landscape and demand for improved quality in public service. Project management is the primary mechanism for an institution to establish its mission and achieve its objective effectively (Machado & Martens, 2015). Therefore, managing small public construction projects in Malaysia is no exception in contributing to the delivery of efficient systems, where project managers play a key role in evaluating a project's success in the field.

Generally, the key formulation for project management success is based on the planning, coordination and execution of a complete project life cycle. The implementation of project management requires expertise, skills, techniques, strategies and instruments used in the planning, coordination and management of projects (Richman, 2002). In the meantime, Abbasi & Al-Mharmah (2000) state that project management techniques in developing countries are still at their early stages. Nonetheless, project management in Malaysia is growing as technology advances (Sundarasan, 2013). In Malaysia, there are two main kinds of projects, private and public. In short, private projects are designed to generate profits for a corporation; whereas public developments are based on basic requirements that are holistic in people's interests. In this relation, based on the Five Year Development Plan (FYDP), Malaysia's public projects are classified into three classifications: big, medium and small projects (Unit Penyelarasan Pelaksanaan, 2015).

### **Small Public Construction Projects Dimension in Malaysia**

The Construction Industry Development Authority (CIDB) has introduced three forms of contract value awards in the industry which are (i) small projects (less than RM3 million), (ii) medium projects (between RM3 million and RM50 million) and (iii) large projects (more than RM50 million) (Endut, Akintoye, & Kelly, 2006). For the purposes of this study, the Small Public Construction Projects (SPCPs) is a project with a value of RM500,000.00 and below that is defined by a short project in terms of execution of time, consisting of a small team, low implementation costs and requiring project manager balance to organize efficiently (Kementerian Kewangan Malaysia, 2011, 2014). Typically, the SPCPs implementation period is 1 to 6 months, depending on the complexity of the project (Kementerian Kewangan Malaysia, 2011). SPCPs examples comprise maintenance, community house, drainage, redevelopment/village roads, road lights, suspension bridges, also nationwide upgrade of basic infrastructure. As far as cost specifics are concerned, SPCPs has been listed by the Ministry of Finance through the government procurement process, *1 Pekeliling Perkhidmatan* (1PP) (Kementerian Kewangan Malaysia, 2014), which is conducted with a project quote of less than RM500,000.00 executed with the selection of a G2 contractor. In the meantime, G1 contractors listed under the CIDB are implementing projects worth RM200,000.00 and below.

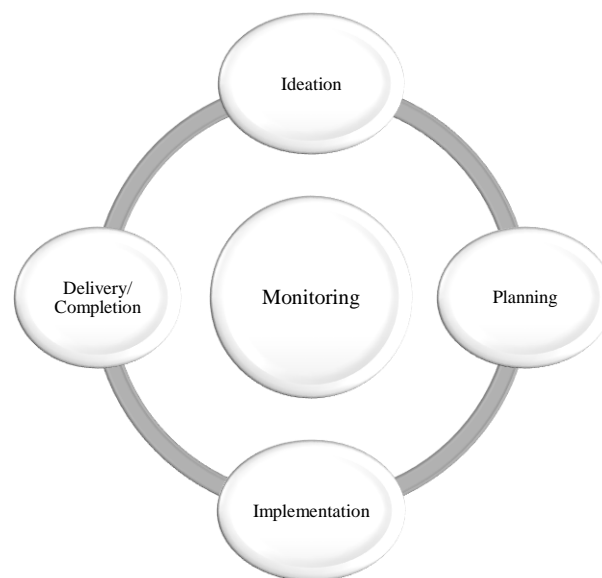
A total of 95,997 contractors have been registered with CIDB as of 2018, of which 58,732 were G1 and G2 contractors in Malaysia, accounting for nearly 62% (percent) of the total registered contractors nationwide (Construction Industry Development Board, 2019). A large proportion of contractors indicates that the implementation of the SPCPs is very important for people's well-being, rural areas on the peninsula such as Sabah and Sarawak in particular. In another viewpoint, SPCPs is a complementary and supplementary project to major FYDP construction projects in Malaysia. Typically, most big projects for example building a hospital will cost around RM50.0 million and above, unforeseen effects such as connectivity, drainage, etc. are left in early planning. The implementation of such SPCPs, therefore, had to be coordinated immediately by the Implementation Coordination Unit, the Department of Prime Ministers (ICU JPM) and the Ministry of Rural Development (KPLB) in order to meet the urgent need for people's well-being.

### **The Obstacle of Project Managers**

Nowadays, public service expectations from various stakeholders are seen to rise periodically, and lack of effective services will have a negative effect on the government's reputation as a

whole. The main challenge for public project managers is to meet the expectations of the people, and the government needs to respond substantially to the demands of the day (Manaf & Marzuki, 2014).

The question arises here: how do public project managers understand the obstacles faced by stakeholders in search of productive services? What about the ability of the public project manager to respond to needs and to adjust the solution efficiently to the desired performance level? These two issues are very important for every project manager to take into account the trust of the people. Therefore, each project must be consistently designed and implemented to ensure that the goals are achieved. The project manager's understanding of project management, based on the concept of a clear chain system, will therefore avoid project leakage and failure (Westland, 2018). The "project management life cycle" as shown in Figure 1 is the phase of the project cycle, which begins with the idea and ends with the project completion (Unit Penyelarasan Pelaksanaan, 2015; Westland, 2018).



**Figure 1: Project Management Life Cycle**

The aim of a life cycle is for the project manager to accomplish the goals and commit the necessary resources to ensure the success of the project. Whereas, according to Chawla, Chanda, Angra, & Chawla (2018) sustainability orientation is often correlated with the life cycle of projects with some limitations on small-scale projects and limited implementation times. Moreover, most small project managers tend to miss out on the planning procedure and go through the implementation phase solely to complete the project as well as to spend all the allocations provided in the current year (Larson & Larson, 2012). That would interfere with construction planning and result in natural problems such as costs overruns, design shifts, bad projects of value and thus dissatisfaction of stakeholders. In the Malaysian budget presentation on 27 October 2017, the announced allocation was RM280.25 billion, up from RM260.8 billion in 2017 with an RM19.45 billion gap. In fact, the development allocation, which falls under the economy, received the highest allocation of RM26.34 billion, the social sector (RM11.72 billion), security (RM5.22 billion) and general administration (RM2.72 billion) (Kementerian Kewangan Malaysia, 2017). The 2016-2017 SPCPs statistics based on the KPLB and ICU JPM annual report are as shown in Table 1 below:

**Table 1: Small Public Construction Projects (SPCPs) Statistics for 2016 and 2017**

| No.            | Zone       | Allocation<br>(Million) |                 | Total<br>(Million) | SPCPs No.     |               | Total<br>(No.) |
|----------------|------------|-------------------------|-----------------|--------------------|---------------|---------------|----------------|
|                |            | 2016                    | 2017            |                    | 2016          | 2017          |                |
| 1.             | Peninsular | 528.39                  | 777.68          | 1,306.07           | 33,095        | 52,066        | 85,161         |
| 2.             | Sabah      | 152.0                   | 234.72          | 386.72             | 4,235         | 6,197         | 10,432         |
| 3.             | Sarawak    | 153.66                  | 241.44          | 395.1              | 4,377         | 7,166         | 11,543         |
| <b>Overall</b> |            | <b>834.05</b>           | <b>1,253.84</b> | <b>2,087.89</b>    | <b>41,707</b> | <b>65,429</b> | <b>107,136</b> |

Based on Table 1, statistics show that a total of 107,136 thousand small projects were implemented in 2016-2017, involving RM2.87 billion allocations across the country (Kementerian Kemajuan Luar Bandar Dan Wilayah, 2016; Unit Penyelaras Pelaksanaan, 2017). This indicates that a large amount of funding has been provided by the Malaysian government to two major central agencies, ICU JPM as well as KPLB, to implement SPCPs, which should affect people's well-being in the short or long term. Nonetheless, a report from Utusan Malaysia (2014) found that a total of 1,248 projects worth RM102.5 million were not implemented given the approval of the government as a result of the coordination and execution of non-systematic projects in the field. The Central Contractors Association (PERKOF) also expressed dissatisfaction with the distribution of small projects to contractors who have been found to be ineffective and integrity due to the incompetence of the project manager (Utusan Borneo, 2014). These issues therefore clearly indicate that the project manager needs to be highly qualified in the range of (technical/non-technical) skills, integrity professionalism and experience in managing public funds in the most strategic areas.

### Research Methodology

This study aims to identify new obstacles arising from the various issues raised in the journal; statistical reports from ICU JPM, KPLB, books and online databases. The following criteria have been used to classify relevant past studies on the obstacles faced by project managers in the 21<sup>st</sup> century with a focus on stakeholders and the articles published between 2010 and the present. One of the reasons for selecting publications and reports from that year to the present is to ensure that they are up-to-date. The content analysis method is selected based on its extensive application by researchers and its sensitivity to documents, reports and media (Krippendorff, 2013). The significance of this analysis is used to understand and explain phenomena in different ways, including management, engineering, social science, human resources, organizational theory, mass media, etc. (Coners & Matthies, 2014; Riffe, Lacy, Watson, & Fico, 2014). This is further supported by the findings of Rashidi, Begum, Mokhtar, & Jacqueline (2014) who note that this approach to content analysis is suitable for the identification of sustainable construction requirements and subjects in Malaysia. Therefore, content analysis has been conducted that applies to the project manager and the results summary is shown in Table 2.



**Table 2: Content Analysis (Project Managers Perspective)**

| No. | Element                                 | Explanation   | Researchers   |
|-----|---|---|---|
| 1.  | Stakeholder Expectations                | The involvement and participation of internal/external stakeholders in the project is important from the point of view of the challenge in determining the success of the project | (Derakhshan, Turner, & Mancini, 2019),<br>(A. J. G. Silvius & Schipper, 2014a),<br>(Eskerod & Huemann, 2013)<br>(Unit Penyelarasan Pelaksanaan, 2015)<br>(Ozguler, 2016)<br>(Toor & Ogunlana, 2010)<br>(Maddaloni & Davis, 2017)  |
| 2.  | Project Uncertainty                     | Uncertainty and project risk may have a significant impact on the achievement of the overall objectives of the project  | (G. Silvius, 2016),<br>(Chawla et al., 2018),<br>(Kerzner, 2010)<br>(Wals & Kieft, 2010)<br>(Saunders, 2016)<br>(Kamal, Haron, Ulang, & Baharum, 2012)<br>(Unit Penyelarasan Pelaksanaan, 2015)                                   |
| 3.  | Competence & Soft Skills Sustainability | Competence and soft skills as an integration of knowledge, skills and attitudes towards the achievement of planned project outcomes   | (A. J. G. Silvius & Schipper, 2014b),<br>(Chawla et al., 2018)<br>(Aziz, 2015)<br>(Esa, Alias, & Samad, 2014)<br>(Cheong & Mustaffa, 2017)<br>(Turner, 2014)<br>(Manaf & Marzuki, 2014)<br>(Bakar, Tabassi, Razak, & Yusof, 2012) |

**Discussion**

Based on the findings of the content analysis in Table 2, three elements of current obstacles can be identified from the project manager's perspective, namely stakeholder expectations, project uncertainty and competence/soft skills sustainability.

### **Stakeholders Expectation**

The stakeholders are an important element in ensuring that the project meets the appropriate criteria for the target group concerned. Both internal and external stakeholders are strategic partners in the planning/execution of the project (Unit Penyelarasan Pelaksanaan, 2015). The success of project management in the public sector has been influenced by a large number of stakeholders who are very concerned about the impact of the project (Ozguler, 2016). This is supported by Toor & Ogunlana 2010 where the real public sector issues are more based on cost minimization and stakeholder satisfaction than the private sector, which seeks to optimize productivity. However, there is no inclusive framework for project management in defining the role and relationship of stakeholders in both internal and external organizational structure (Derakhshan et al., 2019). Furthermore, the project manager's failure to address stakeholders' needs whether internal or external could adversely affect the project outcome (Maddaloni & Davis, 2017). In this regard, sustainable project management involves the proactive involvement of stakeholders in project activities such as needs, cost/benefit assessment, project planning, risk assessment, problem management and project reporting (A. J. G. Silvius & Schipper, 2014a). Recent project practices need to include a stakeholder management approach to ensure that project compliance is beneficial to the target group (Eskerod & Huemann, 2013). As such, it can be concluded that the strategic cooperation of the various stakeholders, whether internal or external and their management skills are very much needed by current project managers to ensure the success of the project in holistically achieving the objective.

### **Projects Uncertainty**

In the meantime, project uncertainty is prevalent in project management, such as financial, resource, social and socio-economic uncertainties. The definition of project uncertainty is an unforeseen field of project material, the business context, the ability to execute it, and the potential impact of the project area (Saunders, 2016). But in this context, the project manager's role is very important in interpreting early warnings that the uncertainty of the project could be realized by ensuring that a recovery plan can be produced (Kerzner, 2010). This is supported by Chawla et al (2018) who mentioned that uncertainties and risks can have a significant impact on the overall achievement of the projected objectives. Furthermore, the ability to handle project challenges is another aspect of the skills that a project manager needs to achieve sustainability (Wals & Kieft, 2010). This is also closely linked to the project manager's sustainability in recognizing gaps in project types management (G. Silvius, 2016). Project uncertainties, which need to be addressed by project managers, are also mitigated by barriers such as lack of project infrastructure, illegal placement, non-compliance with the various requirements set by local authorities, and compliance with legislation and regulations leading to project delays (Unit Penyelarasan Pelaksanaan, 2015). Ultimately, according to Kamal et al. 2012, there is still a gap between government policymakers who have always advocated a favourable project environment for industry players compared to the reality of construction projects in Malaysia. It can therefore be inferred that each project manager will take into account each initial factor in the overall management of the project uncertainty in order to ensure that it is not a major constraint that will have an impact on the project's performance.

### **Competence & Soft Skills Sustainability**

The demands for increasingly complex competence and soft skills from different human-related perspectives are among the current obstacles that project managers face in managing project management. In many aspects, the competence to implement projects requires reliable and efficient project managers, including project management technology (Turner, 2014). This is because according to Aziz 2015 there are project managers in the Agency who do not have an education background in project management but are placed in the project department. Coordinating and implementing projects without sufficient knowledge is also a challenge for publicly appointed project managers. In addition, when communication and coordination between project managers are less effective, which shows that there is an element of ego and silos that do not want to share information with other project managers that causes public waste (Jabatan Audit Negara Malaysia, 2016). On the other hand, the soft skills of project managers are also an important element that leads to the success of projects in the field (Cheong & Mustafa, 2017). As a result, many researchers point out that soft skills contribute more to achievement than technical skills, but the lack of attention paid to soft skills in dynamic, complex and uncertain environments is one factor to be addressed in future research from a project manager's perspective (Esa et al., 2014). This is supported by Bakar et al. 2012 which shows that soft skills are important to the growth of the project's performance. Small-scale construction projects are temporary and project managers are responsible for setting practical objectives to ensure the success of the project is complying with specified standards (Project Management Institute, 2017). Based on the above analysis, it can therefore be concluded that the sustainability characteristics of competence and soft skills are one of the key obstacles for project managers to ensure efficient, scheduled and effective alignment in the preparation of their objectives.

### **Conclusion and Future Research**

In conclusion, the social equilibrium and growth of a nation are grounded on the progress of public projects oriented towards people's well-being. In order to ensure that the country is on the right track, the project manager is undeniably one of the biggest contributors to playing a supporting role in the planned development agenda, including actively addressing this 21<sup>st</sup> century challenge with the latest solutions. This study recognizing three major obstacles through content analysis such as stakeholder expectations, project uncertainty and sustainability competence/soft skills. The findings indicate that the project manager interacts not only with constructing management from start to finish but also sets out principles and relationships between stakeholders. In this rapport, government or relevant entities need to introduce new strategies to further streamline the implementation of projects to make various stakeholders more satisfied with today's increasingly challenging demands. This study contributes to the theoretical and contextual aspects to a more detailed understanding of project managers, including helping shape future research, especially in the non-technical skills facing by the public sector. The study was restricted to secondary data and future recommendations must take into account limitation when discussing the findings, including interview and survey.

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## References

- Abbasi, G. Y., & Al-Mharmah, H. (2000). Project management practice by the public sector in a developing country. *International Journal of Project Management*, 18(2), 105–109.
- Aziz, M. (2015). *Kajian Terhadap Amalan Terbaik Pengurusan Projek di bawah Jabatan Kerja Raya*. University Sains Malaysia. University Sains Malaysia.
- Bakar, A. H. A., Tabassi, A. A., Razak, A. A., & Yusof, M. N. (2012). Key Factors Contributing to Growth of Construction Companies : A Malaysian Experience. *World Applied Sciences Journal*, 19(9), 1295–1304.
- Chawla, V. K., Chanda, A. K., Angra, S., & Chawla, G. R. (2018). The sustainable project management: A review and future possibilities. *Journal of Project Management*, 3, 157–170.
- Cheong, Y. Y., & Mustaffa, N. E. (2017). Critical Success Factors for Malaysian Construction Projects: An Investigative Review. *International Journal of Built Environment and Sustainability*, 4(2), 93–104.
- Coners, A., & Matthies, B. (2014). A content analysis of content analyses in is research: Purposes, data sources, and methodological characteristics. In *Proceedings - Pacific Asia Conference on Information Systems, PACIS 2014*.
- Construction Industry Development Board. (2019). *CIDB Malaysia Annual Report 2018*. CIDB Malaysia (Vol. 53). Kuala Lumpur.
- Derakhshan, R., Turner, R., & Mancini, M. (2019). Project Governance and Stakeholders : A Literature Review. *International Journal of Project Management*, 37(1), 98–116.
- Endut, I. R., Akintoye, A., & Kelly, J. (2006). Relationship Between Duration and Cost of Malaysian Construction Projects. In *Proceedings of the International Conference in the Built Environment in the 21st Century (ICiBE 2006)* (Vol. 1, p. 308). Malaysia.
- Esa, M., Alias, A., & Samad, Z. A. (2014). Project Managers' Cognitive Style in Decision Making: A Perspective from Construction Industry. *International Journal of Psychological Studies*, 6(2), 65–73.
- Eskerod, P., & Huemann, M. (2013). Sustainable Development and Project Stakeholder Management: What Standards Say. *International Journal of Managing Projects in Business*, 6(1), 36–50.
- Jabatan Audit Negara Malaysia. (2016). *Laporan Ketua Audit Negara 2016 - Aktiviti Kementerian/Jabatan Kerajaan Persekutuan dan Badan-Badan Berkanun Persekutuan Siri 2*. Putrajaya.
- Kamal, E. M., Haron, S. H., Ulang, N., & Baharum, F. (2012). The Critical Review on the Malaysian Construction Industry. *Journal of Economics and Sustainable Development*, 3(13).
- Kementerian Kemajuan Luar Bandar Dan Wilayah. (2016). *Laporan Tahunan Kementerian Kemajuan Luar Bandar dan Wilayah 2016*. Putrajaya.
- Kementerian Kewangan Malaysia. Surat Pekeliling Perbendaharaan Bilangan 9 Tahun 2011 (2011). Putrajaya, Malaysia.
- Kementerian Kewangan Malaysia. 1 Pekeliling Perbendaharaan (1PP) (2014). Putrajaya, Malaysia.
- Kementerian Kewangan Malaysia. (2017). *Laporan Bajet 2018*. Putrajaya.
- Kerzner, H. (2010). *Project Management Best Practices: Achieving Global Excellence* (2nd ed.). New Jersey: John Wiley & Sons Inc.
- Krippendorff, K. (2013). *Content Analysis An Introduction Its Methodology* (3rd Editio). SAGE Publication.

- Larson, E., & Larson, R. (2012). Project Management | Managing Small Projects; The Critical Steps. Retrieved from <https://www.projecttimes.com/articles/managing-small-projects-the-critical-steps.html>
- Machado, F. J., & Martens, C. D. P. (2015). Project Management Success : A Bibliometric Analisis. *Revista de Gestão e Projetos - GeP*, 6(1), 28–44.
- Maddaloni, F. Di, & Davis, K. (2017). The influence of local community stakeholders in megaprojects : Rethinking their inclusiveness to improve project performance. *International Journal of Project Management*, 35(8), 1537–1556.
- Manaf, H. A., & Marzuki, N. A. (2014). The Roles of Personality in the Context of Knowledge Sharing : A Malaysian Perspective. *Asian Social Science*, 10(1), 138–150.
- Ozguler, I. S. (2016). Increase the projects' success rate through developing multi-cultural project management process. In *Procedia - Social and Behavioral Sciences* (Vol. 226, pp. 236–242).
- Project Management Institute. (2017). *A Guide to the Project Management Book of Knowledge (PMBOK Guide)* (6th ed.). Newtown Square, Pennsylvania: Project Management Institute, Inc.
- Rashidi, M. N., Begum, R. A., Mokhtar, M., & Jacqueline, J. (2014). Pelaksanaan Analisis Kandungan Sebagai Metodologi Kajian bagi Mengenalpasti Kriteria Pembinaan Lestari. *Journal of Advanced Research Design*, 1(1), 18–27.
- Richman, L. (2002). *Successful Project Management* (3rd ed.). United States of America.: American Management Association.
- Riffe, D., Lacy, S., Watson, B. R., & Fico, F. (2014). *Analyzing Media Messages - Using Quantitative Content Analysis in Research*. Taylor & Francis Group (3rd Editio). New York: Routledge.
- Saunders, F. (2016). *Differentiating between Risk and Uncertainty in the Project Management Literature*. Manchester.
- Silvius, A. J. G., & Schipper, R. P. J. (2014a). Sustainability in project management: A literature review and impact analysis. *Social Business*, 4(1), 63–96.
- Silvius, A. J. G., & Schipper, R. P. J. (2014b). Sustainability in Project Management Competencies : Analyzing the Competence Gap of Project Managers. *Journal of Human Resource and Sustainability Studies*, 2, 40–58.
- Silvius, G. (2016). Sustainability as a Competence of Project Managers. *Project Management World Journal*, V(IX), 1–13.
- Sundarasan, P. (2013). *Factors Contributing To The Success Of Project In Malaysian Companies*. Universiti Tunku Abdul Rahman.
- Toor, S. U. R., & Ogunlana, S. O. (2010). Beyond the “iron triangle”: Stakeholder perception of key performance indicators (KPIs) for large-scale public sector development projects. *International Journal of Project Management*, 28(3), 228–236.
- Turner, J. R. (2014). *Gower handbook of Project Management*.
- Unit Penyelarasan Pelaksanaan. (2017). *Laporan Tahunan ICU JPM 2017*. Putrajaya.
- Unit Penyelarasan Pelaksanaan, J. P. M. (2015). *Mengurus Ekspektasi Pengurusan Projek Awam Konsep Praktikal dan Realiti*. Malaysia.
- Utusan Borneo. (2014). Pelaksanaan projek infrastruktur luar bandar mengecewakan. *Utusan Borneo*.
- Utusan Malaysia. (2014). 1,248 projek PIAS, PIA bernilai RM102.5 juta gagal siap ikut jadual. *Utusan Malaysia*.
- Wals, A. E. J., & Kieft, G. (2010). *Education for Sustainable Development - Research Overview*.

(Per-Einar Tröften and Martin Westin., Ed.). Stockholm, Sweden: Edita 2010.  
Westland, J. (2018). *Project Management Life Cycle*. Kogan Page Business Books.